

# EMERGENCY RESPONSE & ENFORCEMENT ACTION PLAN

## Overview

Effectively responding to hazardous spills or other emergencies and ensuring compliance with Sanctuary regulations requires a series of coordinated activities among multiple agencies, vessel and aircraft operations, and adequate staff and volunteer training. Utilizing these and other approaches, this action plan presents strategies and actions for addressing the Sanctuary's enforcement and emergency response needs.

## Description of the Issues

The remote offshore location of CINMS presents challenges for enforcement of regulations and response to resource emergencies. While CINMS does not employ its own Sanctuary enforcement officers, Sanctuary regulations are enforced by NOAA's Office for Law Enforcement and via a series of agreements with other state and federal agencies. CINMS staff also work with other federal and state response agencies and resource trustees to ensure prompt and effective response to emergencies such as oil and hazardous substance spills, grounded or sunken vessels, vessel collisions, and downed aircraft. Such emergencies have the potential to injure Sanctuary resources, and may sometimes jeopardize human safety or involve loss of life.

Oil spills are a primary concern among many Sanctuary constituents, which is due in large part to the extent and history of oil and gas production in the Santa Barbara Channel (for one example of an oil spill in the Sanctuary region, see the text below on the 1969 Unocal platform blowout). Of the 79 active federal oil and gas leases off the coast of Southern California 43 are developed (producing; MMS 2008), 39 of which are in the Channel Islands region. Three lease units overlap the Sanctuary at its eastern boundary. Emergency response issues raised by Sanctuary constituents during scoping focused on oil and gas production:

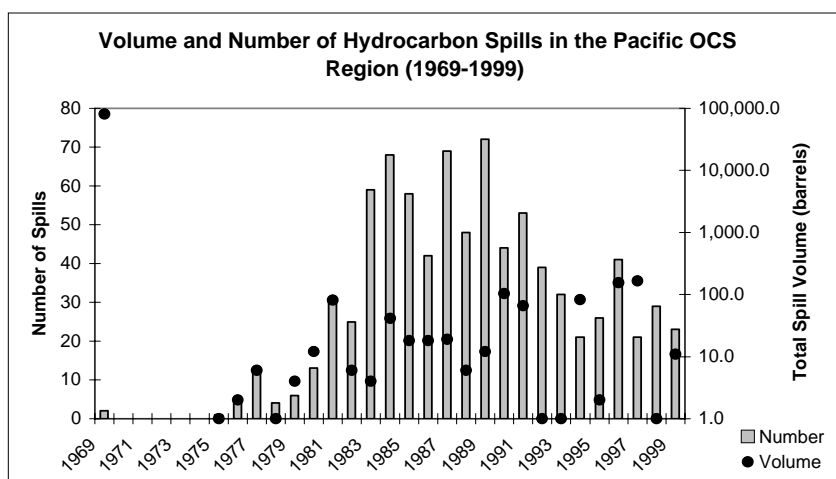
- The Sanctuary should better evaluate the negative impacts from oil drilling, such as vessel strikes, pipe bursts and other accidents, and potential platform blowout;
- CINMS should evaluate and eliminate the potential for increased drilling in the Sanctuary (renewal of existing leases);
- CINMS regulations should be strengthened so that oil and gas activities continue to be prohibited in the Sanctuary; and
- CINMS should evaluate potential impacts of new leases on regional economies, such as fishing and tourism.

## *Emergency Response Issues*

### Oil and Hazardous Spills

Spills of oil or other hazardous materials in the Sanctuary and surrounding marine environment may come from a variety of vectors, including: accidents at oil and gas platforms, land-based accidents, and vessel and aircraft accidents. Spills from vessel accidents may result from vessel-to-vessel collisions, vessel collisions with oil and gas platforms or other stationary facilities, groundings, fires or explosions on board vessels, and aircraft crashes. The potential for spills from each of these vectors exists within the Sanctuary and its immediate surroundings due to: the close proximity of the Sanctuary to several oil rigs,

the overlap of three lease units with the Sanctuary, the close proximity of major air traffic flight paths, oil tanker traffic to the south of the islands, high use of the Sanctuary by recreational and commercial vessels, and the Sanctuary's close proximity to and overlap with major shipping lanes. Figure 45 shows the volume and number of hydrocarbon spills in the Pacific OCS Region due to oil and gas activities between 1969 and 1999.



**Figure 45.** Volume and number of hydrocarbon spills in the Pacific OCS Region due to oil and gas activities between 1969 and 1999.

\*Note: In years 1975, 1978, 1992, 1993, and 1998 the total volume of hydrocarbon spilled was greater than zero. It should be noted that there is also a large amount of natural hydrocarbon seepage in the Pacific OCS Region, particularly in the Santa Barbara Channel. However, hydrocarbons released by natural seepage are dispersed over large spatial and temporal scales, whereas spills due to oil and gas activities occur in concentrated amounts in small spatial and short temporal scales (County of Santa Barbara 2003).

Source: Minerals Management Service. 2001. Delineation Drilling Activities in Federal Waters Offshore Santa Barbara County, California. Department of the Interior, Minerals Management Service. EPA number: 010227D, 631 pages, June 18, 2001.

The impact of oil spills may be both physical and biological, and depends on the type of oil spilled and natural factors such as weather or current patterns that may spread the spill across a greater area. Oil spills caused by vessels or aircraft may include fuel oil, and/or cargo oil, while spills resulting from oil and gas platform accidents may include crude oil and other hydrocarbon products found in natural gas. Heavier petroleum products, such as crude oil and bunker fuel, last for a long duration but are less toxic than lighter hydrocarbons. Although most spilled crude oil initially floats, a percentage of the surface slick dissolves and penetrates the water column. Currents may then carry the slick onshore, fouling the coastline. In contrast, light petroleum products typically evaporate quickly but are more toxic.

Effects of oil on marine organisms vary with the extent and nature of exposure (*e.g.*, ingestion vs. external exposure), coincidence with activities such as feeding or breeding, the overall health of the affected animals, the species affected, and the type of oil (McCrary, Panzer, and Pierson 2003; County of Santa Barbara Energy Division 2002; Geraci and Aubin 1987; National Research Council 1985). Heavy crude oil tends to be very sticky, adhering to fur, feathers and skin. Volatile compounds in oil can burn eye, nose and mouth membranes of various marine organisms. Lighter hydrocarbons (*e.g.*, benzene, propane and toluene) may enter the bloodstream and damage red blood cells, immune system, liver, kidneys, spleen and the reproductive organs. In general, impacts may include disruption of normal feeding behavior, breeding and locomotion, reduced resistance to stress, toxic disease, loss of buoyancy, reproductive failure, and internal and external injury. Foraging seabirds may suffer contamination of feathers, which reduces flying and swimming ability, compromises buoyancy and thermal insulation, and often results in high mortality rates (McCrary, Panzer and Pierson 2003). Preening birds experience reproductive failure, unviable eggs or the transfer of oil to eggs or chicks from ingestion of toxic hydrocarbons. Diving birds, such as murres, guillemots, murrelets, loons, grebes and cormorants, are particularly susceptible to contact with oil given the additional exposure they receive when diving through the water column. Sea otters may suffer loss of buoyancy and thermal insulation (Laughlin 1994; Geraci and Aubin 1987; NRC 1985). Seals may be heavily oiled, compromising the insulating properties of their fur, leading to death through hypothermia. Whales may suffer from fouled baleen (impeding feeding ability), and oil collecting in their callosities (rough, cornified patches of skin) (Geraci and Aubin 1987; Geraci 1990). While animals in the water column may be able to avoid or exit areas impacted by oil, benthic marine organisms, especially those that are non-mobile, are highly susceptible. Internal injury to marine animals may also result from ingestion of oil during feeding, and/or grooming. Potential external injuries to animals may include skin and eye damage.

Effects of hazardous spills vary extensively depending on the nature of the hazardous agent involved (County of Santa Barbara Energy Division. 2002). A regional example of a hazardous spill is the case of

#### The Unocal Spill of 1969

The 1969 blowout and oil spill from Unocal's platform A in the Santa Barbara Channel received international attention (McCrary, Panzer and Pierson 2003; County of Santa Barbara Energy Division. 2002) and was a major catalyst in the development of modern environmental law in the United States and the designation of the Channel Islands National Marine Sanctuary (Cicin-Sain and Knecht 2000). The spill led to the spread of 200,000 gallons of crude oil into an 800 square mile slick.

Major oil spills can have devastating impacts on marine life (NRC 1985). Animals may ingest toxic quantities of hydrocarbons or may suffer other effects of contact or physical fouling. Sea otters and seals may be heavily oiled, compromising the insulating properties of their fur, and leading to death through hypothermia. When major spills impact areas populated by marine animals, dozens to thousands may be killed.

Reactions of migrating gray whales to the 1969 oil spill were not documented (Brownwell 1971), and no deaths were attributed to the effects of oil pollution (Reeves 1977). Six gray whale carcasses were recovered after the 1969 oil spill (Geraci 1990). Although the tally of dead whales was higher than recorded, researchers concluded that the higher counts were due to increased survey effort (Geraci 1990). The 1969 oil spill resulted in the loss of thousands of birds (McCrary, Panzer and Pierson 2003).

The 1969 spill influenced the passage of major state and federal legislation, such as the National Environmental Policy Act (NEPA), Federal Water Pollution Control Act (CWA), California Environmental Quality Act (CEQA), California Coastal Initiative in 1972 (Proposition 20), and California Coastal Act of 1976. Pursuant to these and other statutes, development permits for onshore or offshore oil and gas facilities may not be issued without provisions to protect terrestrial, marine, visual, recreational, and air resources.

the *Pacbaroness*, which collided with a car carrier off Point Conception in 1987 while carrying a toxic cargo of copper ore. This example is described in further detail in The Case of the *Pacbaroness* text box within the Water Quality Action Plan.

#### Other Emergency Response Issues

Aside from oil and hazardous spills, other emergency issues of concern to the Sanctuary result from vessel and aircraft accidents, and natural disasters. While vessel and aircraft accidents may be a source of hazardous materials and oil spills, they may also result in resource damages from impacts other than spills, as well as human safety threats and loss of life. Grounded vessels, and sunken vessels and aircraft may result in resource damage due to wildlife and habitat disturbance (*e.g.*, loss of benthic organisms due to abrasion from vessels grounded on rocky reefs). Although issues related to human safety and loss of life fall within the mandates of other agencies such as the U.S. Coast Guard, CINMS sometimes acts as a partner in responding to such emergency issues when they occur within or near the Sanctuary and Sanctuary resources such as aircraft and vessels, computer models, oceanographic data, and staff trained in first aid or paramedics may be of assistance. For example, CINMS staff aided in the search and salvage response efforts where Alaskan Airlines Flight 261 was lost off of Anacapa Island in February 2000.

#### Need for Coordinated Enforcement

Enforcement of CINMS and other resource agency regulations is essential for providing long-term protection to Sanctuary resources. As an offshore site, CINMS is a difficult area to patrol and enforce, requiring challenging use of available vessels, aircraft and other resources from among multiple agencies.

Sanctuary regulations are enforced through two principal means: the NOAA Office for Law Enforcement (OLE) and cooperative agreements allowing NOAA to deputize enforcement officers from other federal and state agencies. The Sanctuary currently has individual enforcement agreements with the U.S. Coast Guard, California Department of Fish and Game, and the National Park Service. In order to ensure coordinated and comprehensive law enforcement services around the Channel Islands, CINMS needs to continue playing a lead role in developing and updating these cooperative agreements among enforcement agencies.

#### Public Involvement in Sanctuary Stewardship

In addition to providing law enforcement of regulations, CINMS seeks to take an interpretive enforcement approach to informing the public and encouraging voluntary compliance. Interpretive enforcement is an enforcement strategy in which voluntary compliance and stewardship are stressed through educational messages and literature about responsible behavior. Because CINMS covers a vast area of open waters, the boating public can play an important role in helping to keep an eye on the Sanctuary, and, where appropriate, trained volunteers can assist in raising visitor awareness of the Sanctuary's regulations. To successfully and safely employ volunteers in this way, CINMS needs to provide leadership, training, and other support to develop an effective interpretive enforcement program.

### **Addressing the Issue – Strategies For This Action Plan**

There are two strategies in the Emergency Response & Enforcement Action Plan:

- EE.1 – Emergency Response Planning & Implementation; and
- EE.2 – Expanding Enforcement Efforts

Each of these strategies is detailed below.

## STRATEGY EE.1 – EMERGENCY RESPONSE PLANNING & IMPLEMENTATION

- *Objective:* To be prepared for response to oil spills, hazardous material spills, grounded vessels and natural or human initiated disasters.
- *Implementation:* Resource Protection staff

### **Background**

CINMS staff will continue to develop an emergency response plan for oil spills, hazardous material spills, grounded vessels or natural disasters. The plan will be developed to link with the Incident Command System and the U.S. Coast Guard's Area Contingency Plan (ACP) and will strive to initiate a seamless operation in cooperation with various federal, state and local emergency response agencies in California including: NOAA HAZMAT; California Dept of Fish and Game, Office of Oil Spill Prevention and Response (OSPR); The U.S. Coast Guard; the California Office of Emergency Response (OES); and County and City government Emergency Response Offices. The Emergency Response Plan will be reviewed, evaluated and updated on an annual basis and volunteers will be trained to assist in the event of an emergency.

All CINMS response activity for any event large enough to activate the regional response system is coordinated through the ACP and activated Incident Command Center. The ACP is the "playbook" for emergency response. The ACP is basically a step by step instruction set taking responders through an event from initial notification through post event impact analysis and reporting. The ACP is a living document, and is reviewed and updated on an as-needed basis to ensure that all contact information and response resource inventories are always current. The ACP is available online at:

[http://www.dfg.ca.gov/ospr/organizational/scientific/acp/marine3/2005ACPs/2005LAACPs/laacp\\_index.htm](http://www.dfg.ca.gov/ospr/organizational/scientific/acp/marine3/2005ACPs/2005LAACPs/laacp_index.htm).

The National Marine Sanctuary program has designed and utilizes innovative emergency response tools to increase response capabilities at CINMS and other national marine sanctuaries in responding to resource protection emergencies. Two of these tools are the Sanctuaries Hazardous Incident Emergency Logistics Database System (SHIELDS) and the Resources and Under Sea Threats (RUST) database. SHIELDS is a comprehensive web-based tool that, in the event of a resource emergency, provides Sanctuary and headquarters staff with immediate access to information about habitats and species at risk, any additional threats, resources available to help, notification contacts, maps and agency jurisdictions. RUST is included within SHIELDS and allows NMSP and CINMS staff to inventory and assess the relative threat of shipwrecks, pipelines, platforms, munitions, radioactive wastes, chemical warfare agents and industrial wastes.

CINMS provides aircraft, vessels, and trained response personnel as needed for emergency response events. Additionally, the Federal On-Scene Coordinator (FOSC), usually the U.S. Coast Guard in marine incidents, has full authority to bring any resources in from anywhere in the country to respond to an event, thus ensuring national resources are available to protect the CINMS. The ACP provides information about how the FOSC is designated for each incident.

### **Activities (5)**

**(1) Identify Specific Emergency Response Duties for CINMS Staff.** Staff are trained in the Incident Command System, the area contingency plan, emergency response duties, emergency response drills and resource damage assessment skills. Training is ongoing, with regular updates and refresher courses.

Status: Existing project; training is ongoing and will continue at appropriate intervals through years 1-5

Partners: USCG; NOAA HAZMAT; CDFG-OSPR; California OES; regional oil companies; other regional authorities

**(2) Implement SHIELDS and RUST.** CINMS staff will continue to work with NMSP headquarters on implementing and improving the various aspects of both the SHIELDS and RUST initiatives (see description above). CINMS staff has received training on both of these emergency response tools and will receive additional training as it is made available.



**Figure 46.** Grounded or sunken vessels may release harmful substances such as fuel and oil into the environment, as at this site of a sunken fishing vessel off of Santa Rosa Island, 2003. (CINMS)

Status: Project began in 2003; implementation and training will continue across year 1 through 5

Partners: NOAA HAZMAT, USCG, CDFG-OSPR

**(3) Train Additional Emergency Response Volunteers.** Volunteers will be provided training on hazardous waste operations and emergency response (HAZWOPR) procedures, as well as shoreline cleanup and assessment techniques, to be readied for service by the end of year three. In the event of a spill or other resource emergency, these volunteers would be located at affected coastal and island shorelines to inventory impacts on living marine resources and habitats during and after an incident.

Status: Implementation by year 3

Partners: USCG; NOAA HAZMAT; CDFG-OSPR

**(4) Develop an Emergency Response Manual.** CINMS will develop a manual containing a site safety plan checklist, responsibilities of CINMS staff, command, operations, planning, logistics and a glossary of terms.

Status: Existing project; updated manual completed by year two

Partners: U.S. Coast Guard; NOAA HAZMAT; CDFG-OSPR

**(5) Develop a Modeling Program as Part of SAMSAP to Assist in Emergency Response and Assessment.** Using Global Positioning Satellite (GPS), modified survey software and Geographical Information System (GIS), CINMS can now plot a spill's perimeter and endangered resources and transmit findings and produce color maps and GIS data output immediately after landing. CINMS is currently updating the SAMSAP software to include modules specific to emergency response use. The next phase of this program includes the acquisition of additional data to input into a model for real-time analysis for increased accuracy of trajectory models. In addition, CINMS would like to make these capabilities available for vessel use.

Status: Implementation began in 1998; next phase implemented by year 2

Partners: Internal

## STRATEGY EE.2 – EXPANDING ENFORCEMENT EFFORTS

- *Objective:* To promote resource protection through compliance with Sanctuary regulations and other applicable state and federal statutes and regulations.
- *Implementation:* Resource Protection staff

### **Background**

The objective of this strategy is to promote resource protection through compliance with Sanctuary regulations and other applicable state and federal statutes and regulations. The mission of Sanctuary enforcement is to ensure compliance with the NMSA and Sanctuary regulations. Section 307 of the NMSA authorizes the Secretary of Commerce to conduct activities for enforcing the act, delineates civil penalties and powers of authorized officers, and provides for recovery of penalties by the Secretary. The CINMS enforcement program will achieve its goals through: 1) the use of interpretive enforcement<sup>43</sup> as a means to inform the public and encourage voluntary compliance with Sanctuary regulations and 2) the active enforcement of the NMSA and CINMS regulations. Together, these approaches should result in a regular and ongoing enforcement presence in Sanctuary waters and compliance with Sanctuary regulations.

### **Activities (3)**

#### **(1) Plan and Implement Interpretive Enforcement Via Sanctuary Marine Watch (Team OCEAN).**

Team OCEAN (Ocean Conservation Education Action Network), a volunteer-based, peer education program will conduct outreach and interpretation activities to affect behavior and values to achieve voluntary compliance with Sanctuary regulations. Volunteers will impart information about Sanctuary resources, the purpose of Sanctuary regulations, the benefits of protection and the potential impact of activities on the environment. Additional information on Team OCEAN can be found in Strategy AU.3 of the Public Awareness & Understanding Action Plan.

*Status:* Initial planning efforts began in 2002, implementation of pilot project planned for year 2 or 3 with full implementation to follow

*Partners:* Volunteer participants

**(2) Maintain Effective Vessel and Aircraft Surveillance Operations.** The law enforcement component of this strategy includes both aerial and ship-based patrols. Weather permitting, the Sanctuary Aerial Monitoring and Spatial Analysis Program (SAMSAP) performs simultaneous data collection and enforcement surveillance on a weekly basis in the Sanctuary. Using NOAA, partner, and contract aircraft as platforms, SAMSAP tracks visitor use and compliance using its aerial vantage point (see Strategy CS.1) while ship-based patrols are carried out by the Sanctuary's vessel. In addition, CINMS will maintain an active enforcement relationship with the USCG and the Civil Aeronautical Patrol. Additionally, CINMS is increasing its surveillance and enforcement capabilities through the automated identification system described in Strategy CS.8 - Automated Identification System (AIS) Vessel Tracking.

*Status:* Began in 1998; MPA network surveillance started in 2003; continued operations planned throughout years 1 through 5

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<sup>43</sup> Interpretive enforcement is an enforcement strategy in which voluntary compliance and stewardship are stressed through educational messages and literature on responsible behavior.

Partners: Civil Aeronautical Patrol; CA Department of Fish and Game; Channel Islands National Park; NOAA Fisheries – Office for Law Enforcement; U.S. Coast Guard

**(3) Cross-Deputize Other Regional Enforcement Personnel.** Partnerships with state and federal agencies are vital to a successful enforcement program. To ensure sufficient patrol presence in the Sanctuary, various interagency agreements have been developed or are under development by CINMS and NOAA’s Office for Law Enforcement. Such partnerships provide for the cross-deputization of officers with the CDFG and CINP.

Status: Some agreements already in place; complete implementation by year 2 (or sooner) and maintain thereafter

Partners: CA Department of Fish and Game; Channel Islands National Park; NOAA Fisheries – Office for Law Enforcement; U.S. Coast Guard



**Figure 47.** CINMS staff onboard the CDFG enforcement vessel *Swordfish*.  
(Robert Schwemmer)



**Table 10. Estimated Costs for the Emergency Response & Enforcement Action Plan**

Strategy	Estimated Annual Cost (in thousands)*					Total Estimated 5 Year Cost
	YR 1	YR 2	YR 3	YR 4	YR 5	
EE.1: Emergency Response Planning & Implementation	\$14	\$23	\$23	\$14	\$14	\$88
EE.2: Expanding Enforcement Efforts	\$24**	\$16.5**	\$16.5**	\$16.5**	\$90**	\$163.5**
<b>Total Estimated Annual Cost</b>	<b>\$38</b>	<b>\$39.5</b>	<b>\$39.5</b>	<b>\$30.5</b>	<b>\$104</b>	<b>\$251.5</b>

\* Cost estimates exclude base budget funding requirements (salaries, overhead, etc.).

\*\* Includes funds expected from the National Marine Sanctuary Program.

## Addressing the Issues – Strategies From Other Action Plans

In addition to the strategies identified in this Emergency Response & Enforcement Action Plan, there are several strategies from other action plans either directly or indirectly addressing the issues associated with responding to emergencies and enforcing Sanctuary regulations:

- Strategy AU.3 – Team OCEAN;
- Strategy AU.4 – Developing Outreach Technology;
- Strategy AU.8 – MPA Network Education;
- Strategy CS.1 – Sanctuary Aerial Monitoring and Spatial Analysis Program;
- Strategy OP.2 – Permitting and Activity Tracking;
- Strategy OP.3 – Relationships With Other Authorities; and
- Strategy OP.4 – Vehicle, Boat & Aircraft Operations

## Addressing the Issues – Regulations

Strategy EE.2 (Expanding Enforcement Efforts) is related to the provision of law enforcement for all Sanctuary regulations. Sanctuary regulations are available at 15 CFR 922.70-922.74.